

REMARKS

Applicant thanks the Examiner for total consideration given the present application. Claims 37-72 were pending prior to the Office Action. Claims 37, 55, and 64 have been amended and new claims 73-82 have been added through this Reply. Claims 37, 46, 55, 64, 73-76, and 78-81 are independent. Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks.

ALLOWABLE SUBJECT MATTER

Applicant appreciates that claims 46-54 and 64-72 are indicated to be allowable. Applicant further appreciates that claims 38, 40, 41, 45, 56, 58, 59, and 63 are indicated to define allowable subject matter.

35 U.S.C. § 103 REJECTION – SUGAR ET AL. IN VIEW OF TOMOKI ET AL.

Claims 37, 42, 44, 55, 60, and 62 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sugar et al. (USPN 7,194,237 B2) (hereinafter “Sugar”) in view of Tomoki et al. (JP 2000-299704) (hereinafter “Tomoki”). Applicant respectfully traverses.

For a Section 103 rejection to be proper, a *prima facie* case of obviousness must be established. See *M.P.E.P.* 2142. One requirement to establish *prima facie* case of obviousness is that the prior art references, when combined, must teach or suggest all claim limitations. See *M.P.E.P.* 2142; *M.P.E.P.* 706.02(j). Thus, if the cited references fail to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

In this instance, claim 37 recites “A base station for a wireless LAN system ... a media access control (hereinafter, “MAC”) layer, wherein the MAC layer includes, *a transmitter control that divides an entire data frame conforming to the IEEE 802.11 standard from a head of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided data frame to the physical layers so that burst times of the communications channels are substantially equal, a protocol control that dynamically controls the number of random access slots according to a slot use rate,*”

Sugar teaches a wireless communication device having a multiple antennas with multiple-input multiple-output (MIMO) channel to simultaneously transmit plurality of signals. Sugar also teaches a coded modulation process which includes dividing data into discrete frames or blocks. In addition, Sugar teaches transmitting multiple IEEE 802.11 frames. However, Sugar fails to teach or suggest *“a transmitter control that divides an entire data frame conforming to the IEEE 802.11 standard from a head of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided data frame to the physical layers so that burst times of the communications channels are substantially equal.”* Moreover, Sugar fails to teach or suggest *“a MAC layer having a protocol control that dynamically controls the number of random access slots according to a slot use rate.”* The protocol control in the instant application allows transmitting the divided data frame through the random access slots to minimize dispersion and collision of data frame (or packets), thus increasing the throughput of the data transmission.

Furthermore, Tomoki teaches a communication device that divides stream data or information into two or more units (or packets) based on equal length (Tomoki is silent in regards to division length being time or data size). More specifically, Tomoki teaches transmitting divided stream data through a transmission line and receiving the data. The received data is extracted to restore the data frames into original, pre-division data. However, Tomoki fails to teach or suggest that the communication device includes *“a MAC layer having a protocol control that dynamically controls the number of random access slots according to a slot use rate.”* Therefore, Tomoki's communication device is incapable of controlling the collision of data frame (or packets) to increase the throughput of the data transmission.

Therefore, neither Sugar nor Tomoki alone, or in combination, teaches or suggests all features in claim 37. Claim 55 is a radio terminal for wireless LAN system including similar features in claim 37. For at least these reasons, claims 37 and 55 are distinguishable from the combination of Sugar and Tomoki. Claims 42, 44, 60, and 62 depend from claims 37 and 55. Therefore, for at least the reasons stated with respect to claims 37 and 55, claims 42, 44, 60, and 62 are also distinguishable over the combination of Sugar and Tomoki.

Applicant respectfully requests that the rejection of claims 37, 42, 44, 55, 60, and 62, based on Sugar and Tomoki, be withdrawn.

35 U.S.C. § 103 REJECTION – SUGAR IN VIEW OF TOMOKI FURTHER IN VIEW OF KIM ET AL.

Claims 39 and 57 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sugar in view of Tomoki and further in view of Kim et al. (USPN 7,206,586 B2) (hereinafter “Kim”). Applicant respectfully traverses.

As presented above, Sugar and Tomoki fails to teach or suggest “a MAC layer having a protocol control that dynamically controls the number of random access slots according to a slot use rate.” In addition, Kim fails to teach or suggest the above limitation to supplement Sugar and Tomoki’s missing feature.

As set forth on page 5 of the Office Action, the Examiner relies on Kim as allegedly pertaining to incremental features of the above listed dependent claims. The Examiner’s reliance on Kim, however, fails to make up for the deficiencies of Sugar and Tomoki discussed above with respect to Claim 1. Therefore, the asserted combination of Sugar and Tomoki and Kim (assuming these references may be combined, which applicant does not admit) fails to establish prima facie obviousness of any pending claims.

35 U.S.C. § 103 REJECTION – SUGAR IN VIEW OF TOMOKI FURTHER IN VIEW OF SHOEMAKE ET AL.

Claims 43 and 61 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sugar in view of Tomoki and further in view of Shoemake et al. (USPN 7,200,178 B2) (hereinafter “Shoemake”). Applicant respectfully traverses.

As presented above, Sugar and Tomoki fails to teach or suggest “a MAC layer having a protocol control that dynamically controls the number of random access slots according to a slot

use rate." In addition, Shoemake fails to teach or suggest the above limitation to supplement Sugar and Tomoki's missing feature.

Accordingly, as set forth on page 6 of the Office Action, the Examiner relies on Shoemake as allegedly pertaining to incremental features of the above listed dependent claims. The Examiner's reliance on Shoemake, however, fails to make up for the deficiencies of Sugar and Tomoki discussed above with respect to Claim 1. Therefore, the asserted combination of Sugar and Tomoki and Shoemake (assuming these references may be combined, which applicant does not admit) fails to establish *prima facie* obviousness of any pending claims.

NEW CLAIMS

Claims 73-82 have been added through this reply. All new claims are believed to be distinguishable over the cited references, individually or in any combination. For example, claim 73 recites, *inter alia*, "A method of transmission used in a transmission device ... ***a frame allotment step of dividing one data frame corresponding to each of the plurality of the communication channels so that transmission burst times are substantially equal for the plurality of communication channels.***" It has been shown above that the cited references, individually or in combination, may not be relied upon to show at least these features. In addition, independent claims 74-76 and 78-81 includes some of the features described in claim 73. Therefore, claims 73-76 and 78-81 are distinguishable over the cited references. Claims 77 and 82 depend from claims 76 and 81, respectively. Applicant respectfully requests that the claims 73-82 be allowed.

CONCLUSION

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact D. Richard Anderson Reg. No.

40,439 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 

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